

Practice**2.4 Operations With Functions**Find $f + g$ and $f - g$.

1. $f(x) = 7x^2 + 5x; g(x) = x^2 - 13$

2. $f(x) = 41 - 5x; g(x) = 13x^2$

3. $f(x) = x^2 + \frac{3}{1}x + 9; g(x) = -7x - 7$

4. $f(x) = -9x^2 + 6; g(x) = 12x^2$

Find $f \cdot g$ and $\frac{f}{g}$. State any domain restrictions.

5. $f(x) = 35x + 5; g(x) = 5$

6. $f(x) = x^2 + 25; g(x) = 3x + 17$

7. $f(x) = x^2 + 16; g(x) = x^2 - 16$

Let $f(x) = -2x - 2$ and $g(x) = x + 10$. Find each new function, and state any domain restrictions.

8. $f + g$

10. $g - f$

2. $\frac{f}{g}$

Find $f \circ g$ and $g \circ f$.

4. $f(x) = 3x - 2; g(x) = \frac{3}{1}(x + 2)$

5. $f(x) = 4x; g(x) = x^2 - 1$

6. $f(x) = -x^2 + 1; g(x) = x$

Let $f(x) = 11x$, $g(x) = x^2 - 5$, and $h(x) = 2(x - 4)$. Evaluate each composite function.

1. $(f \circ g)(-1)$

1. $(g \circ h)(4)$

24. $(h \circ h)(-1)$

25. $(f \circ f)(2)$

18. $(h \circ f)(-2)$

21. $(g \circ f)(0)$

22. $(f \circ h)(5)$

19. $(h \circ g)(2)$